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ABSTRACT

A Clovis, New Mexico, project designed to develop over five years a model English-Spanish bilingual program for limited English proficiency students from nursery school through grade 6 did not fully meet its objectives during the 1979-80 school year, the project's fifth and final year. One hundred forty students enrolled in grades 3-6 in two Clovis schools were involved in the 1979-80 project. The evaluation used pretest and posttest scores on three subsets of the Comprehensive Test of Basic Skills and three sets of scores on the Developmental Profile to measure student achievement in the areas of language arts, mathematics, reading, self-concept, and favorable emotional development. Language arts objectives were achieved by grades 3 and 4 and mathematics objectives by grades 3, 4, and 5, but reading objectives were not met by any grade level. Despite some growth in self-concept at the third grade level, projected growth in self-concept did not occur at any level. Grade 6 students showed no significant growth in any measured area. For all grade levels it was recommended that additional remedial reading assistance be provided and that the curriculum be modified to include a program to aid in the improvement of student self-concept. (SB)

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END-OF-YEAR EVALUATION REPORT
1979-80
FIFTH-YEAR EVALUATION STUDY

A SCHOOL AND HOME-BASED BILINGUAL EDUCATION MODEL
(Grades 3-6)

Funded by:

Clovis Municipal Schools, Clovis, New Mexico
and
ESEA, Title VII (Bilingual Education)
Bureau of Elementary and Secondary Education
U.S. Office of Education

Under contract with:

Clovis Municipal Schools
800 Pile Street
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June, 1980

RC 01 2406

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Grade	Teachers	Aides
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Grade	Teachers	Aides
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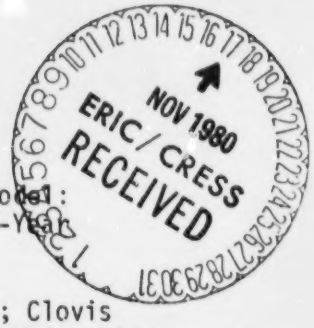

DOCUMENT RESUME

TITLE: A School and Home-Based Bilingual Education Model: End-of-Year Evaluation Report, 1979-80 (Fifth-Year Evaluation Study).

INSTITUTION: Askins, (B.E.) and Associates, Lubbock, Texas; Clovis Municipal Schools, New Mexico; and Texas Tech University

SPONS. AGENCY: Bureau of Elementary and Secondary Education; ESEA, Title VII (Bilingual Education Project), (DHEW/OE) Washington, D.C.

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IDENTIFIERS: Clovis New Mexico Municipal Schools; School and Home-Based Bilingual Education Model

ABSTRACT: This report contains the results of the fifth, and final, year evaluation study of a program designed to develop over a five-year period, a model bilingual (Spanish/English) program from the nursery school level through grade six for the Clovis Municipal Schools. The program attempted to implement innovative and tested instructional biliguai-bicultural materials so as to better serve children with limited English proficiency (LEP) from low-income families. During the 1979-80 academic year, the program operated in two schools in grades 3-6 involving approximately 140 students.

The evaluation design used to evaluate the objectives pertaining to language arts, reading, and mathematics was the use of scores from three sub-tests of the Comprehensive Test of Basic Skills on a spring to spring pretest-posttest basis. The objective pertaining to self-concept was evaluated with the use of the Developmental Profiles. Also, a multiple regression analysis was conducted so as to provide an estimate of what such students' performance in the three academic areas by grade level would have been in the absence of the program.

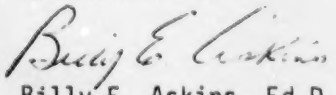
The objective pertaining to language arts was achieved by students in grades 3 and 4, but not for students in grades 5 and 6. The objective pertaining to reading was not achieved by students at any grade level. The objective pertaining to mathematics was achieved in grade levels 3,4, and 5, but not at grade 6. Specific program recommendations are included in the report.

FOREWORD

This end-of-year evaluation report describes the effect of the project, "A School and Home-Based Bilingual Education Model," during 1979-80. This evaluation study was conducted by an independent consultant and service organization with its direction primarily through various faculty members of the College of Education, Texas Tech University. This report is submitted in accordance with the approved Evaluation Proposal dated September 4, 1979 and the Educational Evaluation Agreement dated September 21, 1979.

The evaluation team recognizes and hereby expresses appreciation to the project director, faculty, and staff of the project for their excellent cooperation during the evaluation process.

The invaluable assistance of the various professional and paraprofessional personnel on the evaluation team is also acknowledged and appreciated.



Billy E. Askins, Ed.D.
Evaluation Coordinator
June, 1980

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SECTION I

INTRODUCTION AND DESCRIPTION OF THE PROJECT

Introduction

This report describes the fifth-year external evaluation study of the project, "A School and Home-Based Bilingual Education Model," conducted at La Casita Elementary School by the Clovis Municipal Schools, Clovis, New Mexico. This report covers the period July 1, 1979 - May 31, 1980.

This project was initially started at La Casita Elementary School beginning at the kindergarten level during the 1972-73 school year and was expanded upward by adding one grade level each year. Beginning with the 1978-79 school year, the project was expanded to also include Our Lady of Guadalupe Elementary School. During the 1979-80 school year, the project consisted of grades 3-6 with approximately 140 students including both schools.

Purpose and Goal of Project

Purpose

The purpose of this project was to develop, over a five-year period, a model bilingual program from the nursery school level through grade six for the Clovis Municipal Schools. The project attempted to implement innovative and tested instructional bilingual-bicultural materials so as to better serve children with limited English speaking ability from low-income families.

Major Goal

The major goal of the project was: to provide an early childhood bilingual education intervention which will facilitate the learning of two languages (Spanish and English) simultaneously in an effort to effectively develop the children's cognitive, affective, and psychomotor skills. To accomplish this goal, specific objectives were developed for each grade level.

Objectives

The major objectives used in this external evaluation pertained to the area of student achievement which are as follows:

At the end of the 1979-80 academic year, students in grades 3-6 of the two elementary schools who have been identified as LEP students will be able to:

1.1 Demonstrate ability in language arts (English) at a level

which should normally be expected. Evidence of achievement will be determined from significant gain scores of the sub-test in language arts of the Comprehensive Test of Basic Skills (CTBS) and by comparing this growth/achievement with an estimate of what such students would have performed in this area in the absence of this program.

1.2 Demonstrate ability in reading at a level which normally should be expected. Evidence of achievement will be determined from significant gain scores of this sub-test in reading of the CTBS and by comparing this growth/achievement with an estimate of what such students would have performed in this area in the absence of this program.

1.3 Demonstrate ability in math at a level which should normally be expected. Evidence of achievement will be determined from significant gain scores of the sub-test in math of the CTBS and by comparing this growth/achievement with an estimate of what such students would have performed in this area in the absence of this program.

1.4 Exhibit a positive self-concept and favorable emotional development. Evidence of such behavior will be determined from ratings from the Developmental Profiles which involve periodic teacher evaluations in six areas of the affective domain: awareness of self, self-confidence, interpersonal comprehension, sensitivity to others, effectiveness, and tolerance. Evidence of growth/development for each grade-level will be determined from individual profile sheets plotted in terms of direction and rate of growth/development.

SECTION II

EVALUATION

The External Evaluation

In addition to the on-going internal program evaluation procedures, an external evaluation study was conducted by an outside independent evaluator. This external evaluation study was conducted by B. E. Askins and Associates, Lubbock, Texas. This is an independent consultant and service organization with its direction primarily through various faculty members of the College of Education, Texas Tech University. Members of the evaluation team consisted of professional people with various specializations including: early childhood and elementary education; bilingual education; and research and evaluation. Names of the members of the evaluation are listed on the cover of this report.

Purpose

The major purpose of this evaluation study was to collect and provide information necessary for decision-making relative to students and program progress. Such information was provided to the project director, local education agency, and to the funding agency.

Major elements of this external evaluation consisted of:

1. Providing a variety of professional personnel appropriate to the evaluation of the project. This included personnel to design and administer the needs assessment instruments, conduct site-visits, prepare analyses, and prepare reports.

2. Providing the project director with various types of data which could be used in program planning and operation. These data consisted of an item analysis of the Comprehensive Test of Basic Skills (CTBS) of students in the 6th grade at Our Lady of Guadalupe Elementary School.

3. Preparing reports

   a. An Interim Report was submitted to the project director December 1, 1979.

   b. The Final Evaluation Report was submitted to the project director on June 30, 1980.

4. Disseminating evaluation reports and other information pertaining to the operation of the project.

Evaluation Design

The design for the external evaluation during 1979-80 was based upon the program objectives as pertains only to student achievement.

Student Achievement

The model for evaluating student achievement was a spring to spring pretest-posttest design. Student achievement in each area was determined by the amount of gain achieved between the pretest (Sp 79) and posttest (Sp 80). The differences were statistically treated using the t-test with significance being determined at the .05 level. Means and standard deviations were also reported.

In addition, the model provides an estimate of what such students' performance in each of the areas measured would have been in the absence of the program. This was computed using a multiple regression analysis model which can be depicted as:

$$y^1 = X_1 + X_2 \text{---} X_n$$

Where:

Y^1 = measure of each objective
X_1--X_n = selected program and personal variables

The dependent variables, measures of the objectives pertaining to student achievement (1.1 - 1.3), were:

1. Language Arts as measured by the sub-test of the CTBS.
2. Reading as measured by the sub-test of the CTBS.
3. Math as measured by the sub-test of the CTBS.

The independent variables were:

1. Sex
2. Age
3. Pretest scores
4. Years in bilingual education program
5. Educational level of mother
6. Educational level of father

The regression line (line of best fit) was set using the variables listed above and compared with the actual performance line. An estimated performance level was made using this procedure.

Data to evaluate self-concept (1.4) was collected with the use of the Developmental Profiles. This instrument was completed for each LEP student 3 times during the year (Sept, Feb, and May) by the classroom teacher. Group change was determined by computing an average of the individual ratings on the Developmental Profile for each of the six areas evaluated.

This design was followed for each grade level (3-5) involved in the program.

Other Evaluation Data

Item Analysis of the CTBS. An item analysis of responses from the Comprehensive Test of Basic Skills (CTBS) from students who were in the sixth grade (1978-79) at Our Lady of Guadalupe Elementary School was conducted. The purpose of this analysis was to develop a profile of students in the sixth grade so as to make the teachers aware of some of the strengths and weaknesses of the students and curriculum. This information was provided in a separate report dated November, 1979.

On-Going Evaluation Activities. In addition to the above stated measures (pre and posttests), there were on-going subjective evaluation activities. This consisted mainly of site-visits by the evaluation team so as to observe and become familiar with the daily operation of the project. Such observation was necessary so as to become familiar with the educational setting of the various measures.

SECTION III

EVALUATION DATA

The external evaluation was designed to measure the impact of the bilingual education project, in terms of student achievement, on students in grades 3 through 6 in the two elementary schools where the project was conducted. Student achievement was measured in the areas of: language arts, reading, mathematics and self-concept and favorable emotional development. Achievement in the areas of language arts, reading and mathematics was defined as gain scores obtained from the respective sub-tests of the Comprehensive Test of Basic Skills (CTBS) and data to evaluate the self-concept and favorable emotional development were collected with the use of the Developmental Profiles.

During the 1979-80 school year, the bilingual education project was conducted in grades 3 through 6 at La Casita Elementary School and Our Lady of Guadalupe Elementary School. As concerns this external evaluation study and report, evaluation data for the various grade levels in each of the two schools were combined; however, data by school by grade level were made available to each school principal and to the project director.

EVALUATION DESIGN

As approved in the 1979-80 Evaluation Proposal and summarized in Section II in this report, the design for evaluating the instructional objectives pertaining to language arts (1.1), reading (1.2) and mathematics (1.3) was a pretest-posttest analysis of sub-test scores of the Comprehensive Tests of Basic Skills (CTBS) of students in grades 3 through 6. The objective pertaining to self-concept and favorable emotional development (1.4) was evaluated with the use of the Developmental Profiles. The instrument was completed on each student three times during the year (September, February and May) by the classroom teacher. Group change was determined by computing the average of the individual ratings on the Developmental Profile for each of the six areas measured.

The basic model for evaluating the objectives using the scores from the three sub-tests of the CTBS was a spring to spring pretest-posttest design. Student achievement in each of the three areas was determined by the amount of gain achieved between the pretest (Spring 1979) and posttest (Spring 1980). The differences were statistically treated using the t-test with significance being determined at the .05 level. In addition, a regression analysis was conducted so as to provide an estimate of what such students' performance in each of the three areas measured, by grade level, would have been in the absence of the program. Predictor variables used were: pretest score, sex, age, years in program, educational level of mother and educational level of father. The

procedure for this analysis consisted of establishing a regression line based on the predictor variables which can be interpreted as a predicted line of performance in the absence of program participation. Actual performance was then plotted to determine the measured performance of the students at each grade level in the three areas of language arts, reading, and mathematics.

FINDINGS

Analysis of data from the scores of the sub-tests of the CTBS by grade level are presented in Table 1.

TABLE 1

PRETEST-POSTTEST PERFORMANCE OF STUDENTS BY GRADE LEVEL IN AREAS OF LANGUAGE ARTS, READING AND MATHEMATICS

AREA	GRADE	N	PRETEST MEAN	POSTTEST MEAN	t	p
READING	3	46	41.75	42.92	.14	N.S.
	4	27	41.67	45.86	.36	N.S.
	5	24	61.13	67.23	1.32	N.S.
	6	32	66.14	70.36	1.23	N.S.
LANGUAGE ARTS	3	44	44.83	58.67	2.15	.05
	4	27	54.57	65.75	3.21	.05
	5	23	79.83	83.19	1.47	N.S.
	6	32	80.42	89.18	1.98	N.S.
MATHEMATICS	3	46	35.90	61.80	4.16	.01
	4	27	59.67	87.20	5.82	.01
	5	23	73.14	79.06	2.20	.05
	6	32	76.40	80.86	1.01	N.S.

Analysis of the data as presented in Table 1 indicated the following:

1. Gains were made in each of the three areas measured at all four grade levels.
2. Significant gains were made by students at the third and fourth grade levels in the areas of language arts and mathematics; by students at the fifth grade level in the area of mathematics.
3. Significant gains were not made at any grade level in the area of reading.
4. Significant gains were not made at the fifth and sixth grade levels in language arts, and at the sixth grade level in the area of mathematics.

Data from the regression analysis are presented in Figures 1,2 and 3.

Figure 1, Predicted and Actual Performance in Language Arts, indicates that students in all grade levels performed higher than predicted in language arts. The difference was greater at the fifth grade level and smallest at the third grade level.

Figure 2, Predicted and Actual Performance in Reading, indicates a substantial difference in the predicted and actual performance in reading at all grade levels. The data show that predicted performance was much higher than the actual performance.

Figure 3, Predicted and Actual Performance in Mathematics, indicates that students at all grade levels performed at a higher level than predicted in the area of mathematics. The differences were similar at grades four, five and six, and less at grade level three.

Data collected from the Developmental Profiles pertaining to self-concept and favorable emotional development are presented in Figures 4,5,6, and 7. Growth was indicated in each of the six areas; however, students in the third grade indicated the most growth.

Other Evaluation Data

Item Analysis of the CTBS. An item analysis of the scores of the Comprehensive Test of Basic Skills (CTBS) of students in the sixth grade at Our Lady of Guadalupe Elementary School was conducted. The purpose of this analysis was to develop a profile of students in the sixth grade so as to make the teachers aware of some of the academic strengths and weaknesses of the students. Such data were used in program planning. These item analyses were presented to the teachers in an in-service training session on November 6, 1979 by various members of the evaluation team. A complete report of the results of this analysis was provided to the principal and to the project director.

On-Going Evaluation Activities. This consisted of twelve site-visits during the school year by various members of the evaluation team so as to become more familiar with the daily operations of the project. Such observation was necessary so as to become familiar with the educational setting of the various measures.

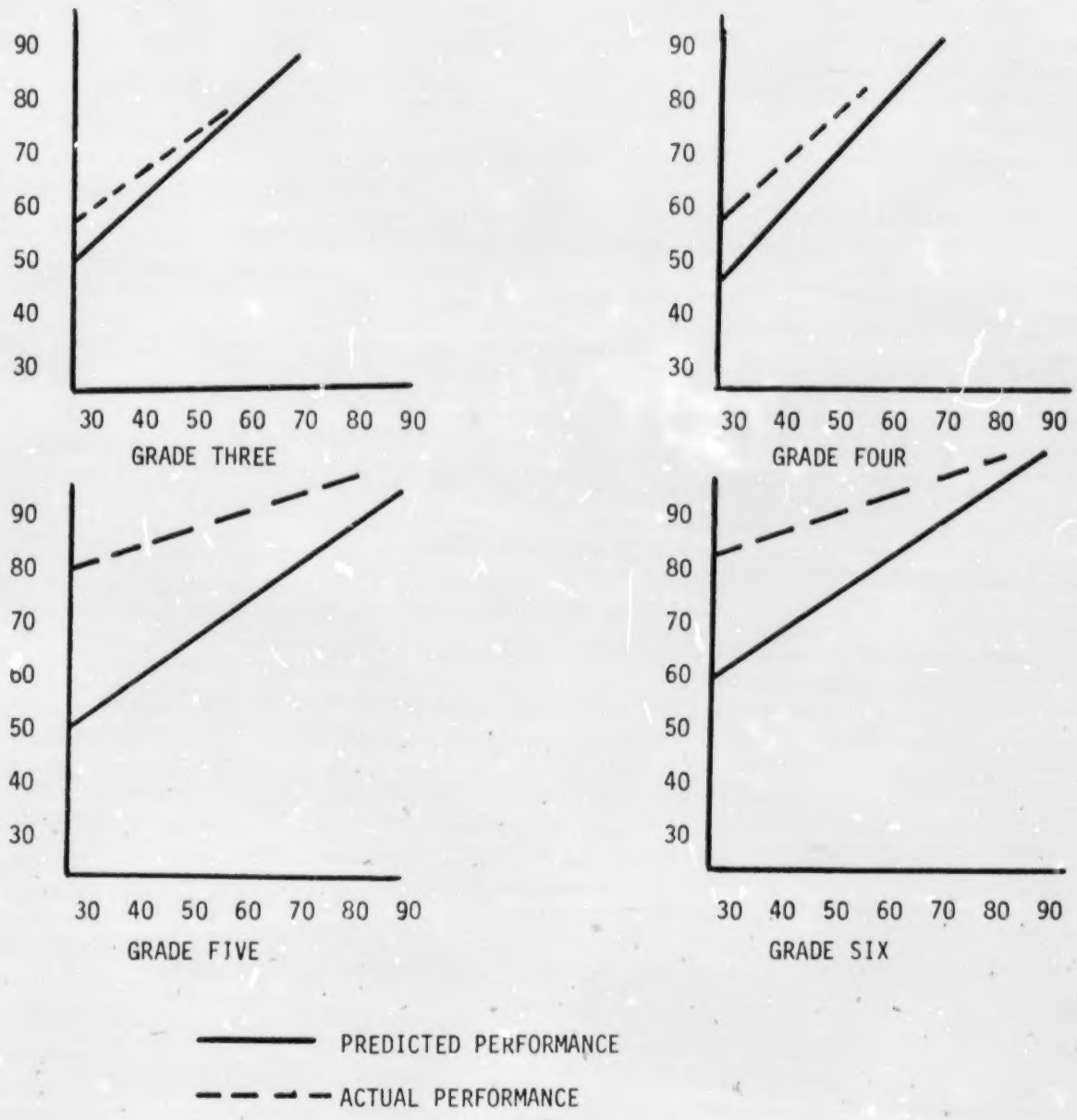

FIGURE 1, PREDICTED AND ACTUAL PERFORMANCE IN AREA OF LANGUAGE ARTS

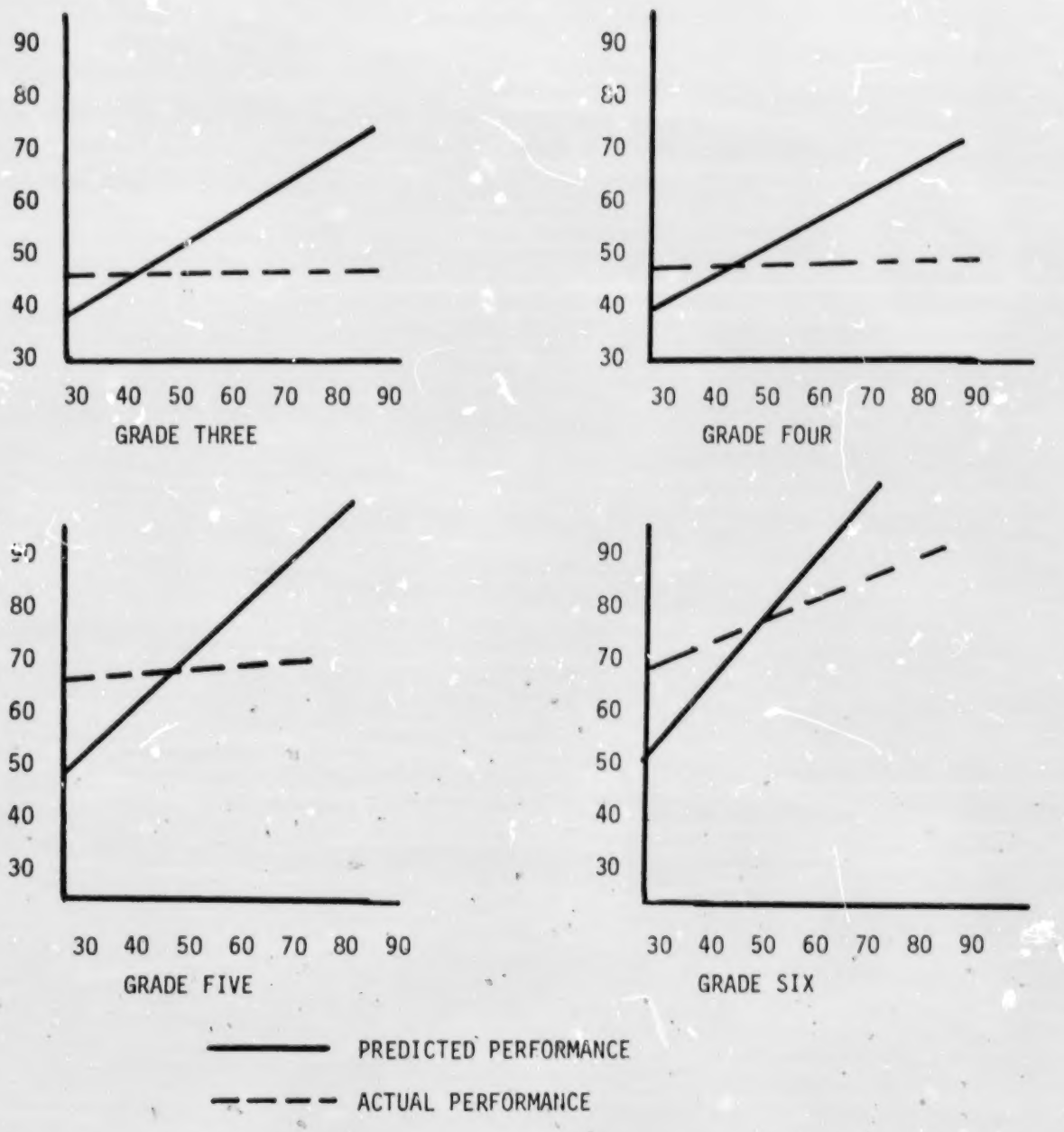

FIGURE 2, PREDICTED AND ACTUAL PERFORMANCE IN AREA OF READING

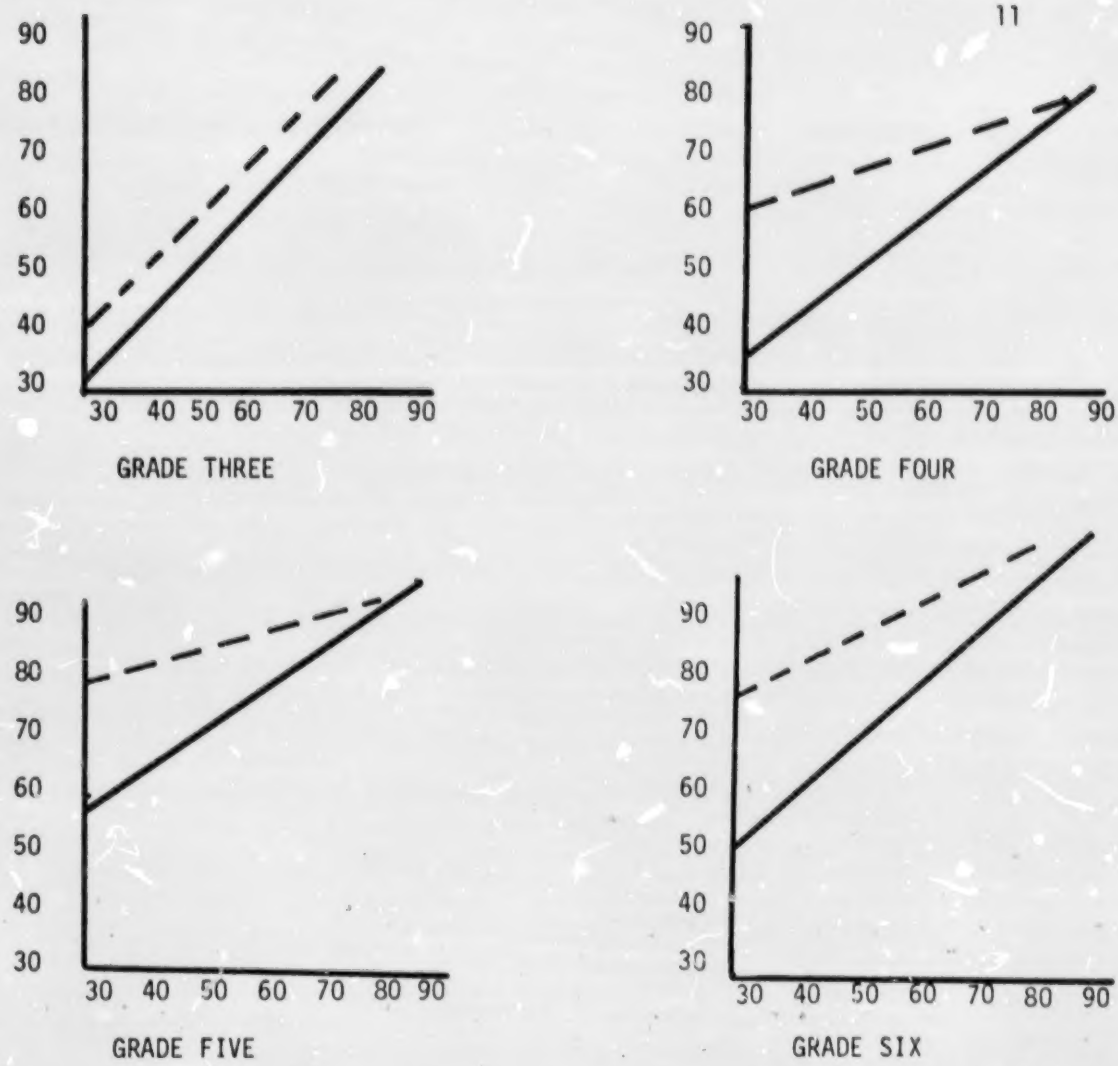

FIGURE 3, PREDICTED AND ACTUAL PERFORMANCE IN AREA OF MATHEMATICS

Developmental Profile

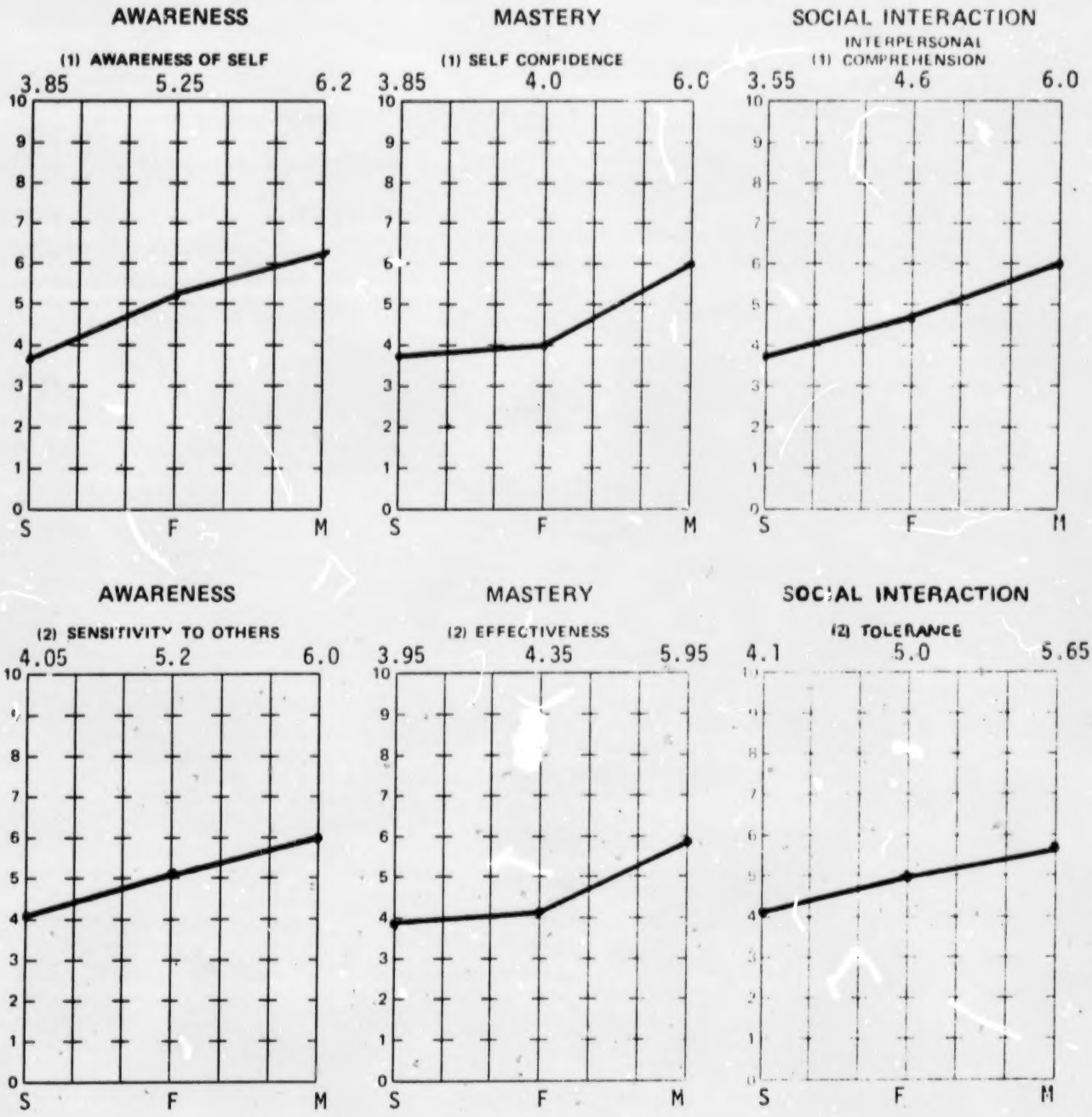

Figure 4, Developmental Profile for the Third Grade

Developmental Profile

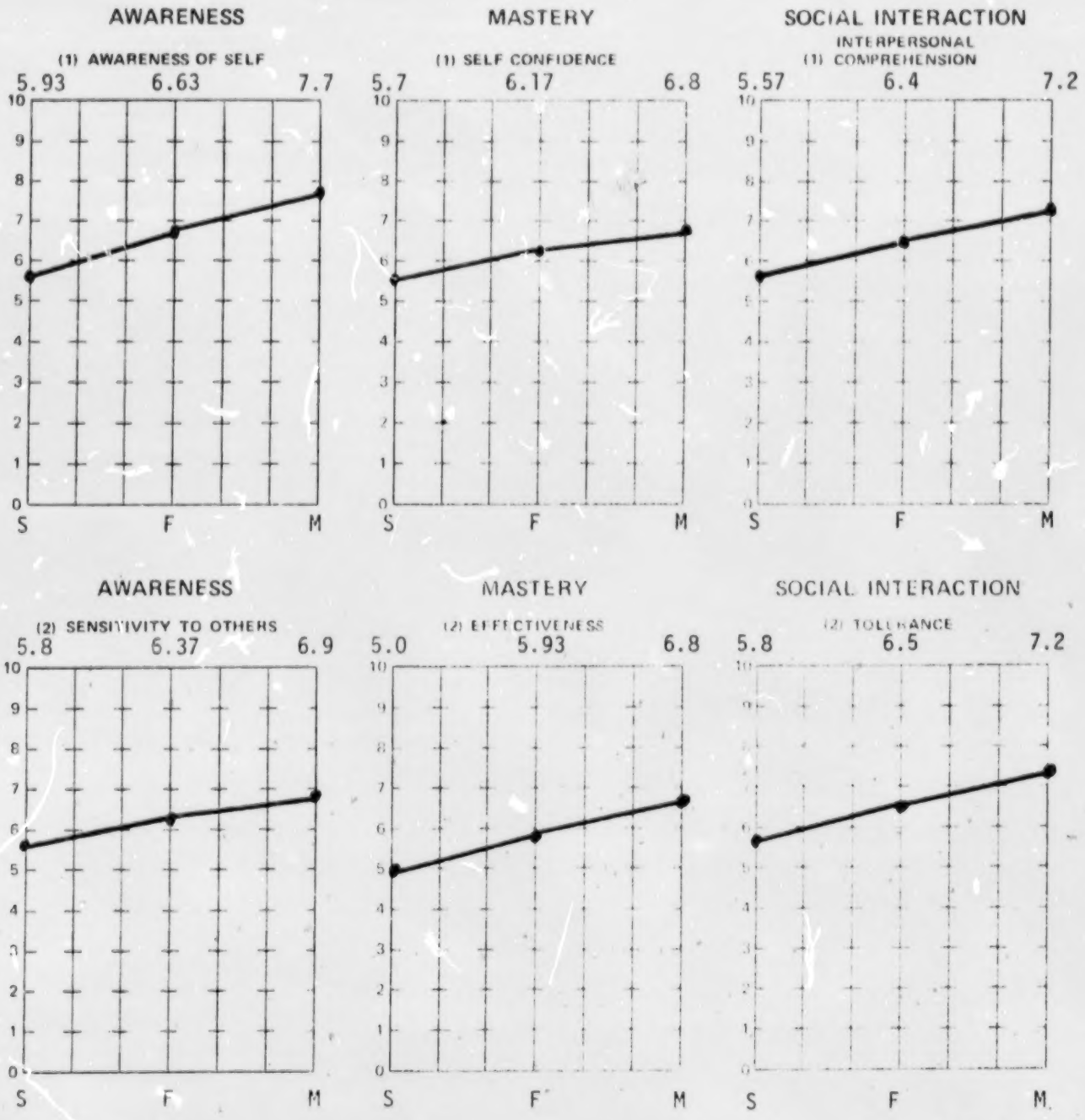

Figure 5, Developmental Profile for the Fourth Grade

Developmental Profile

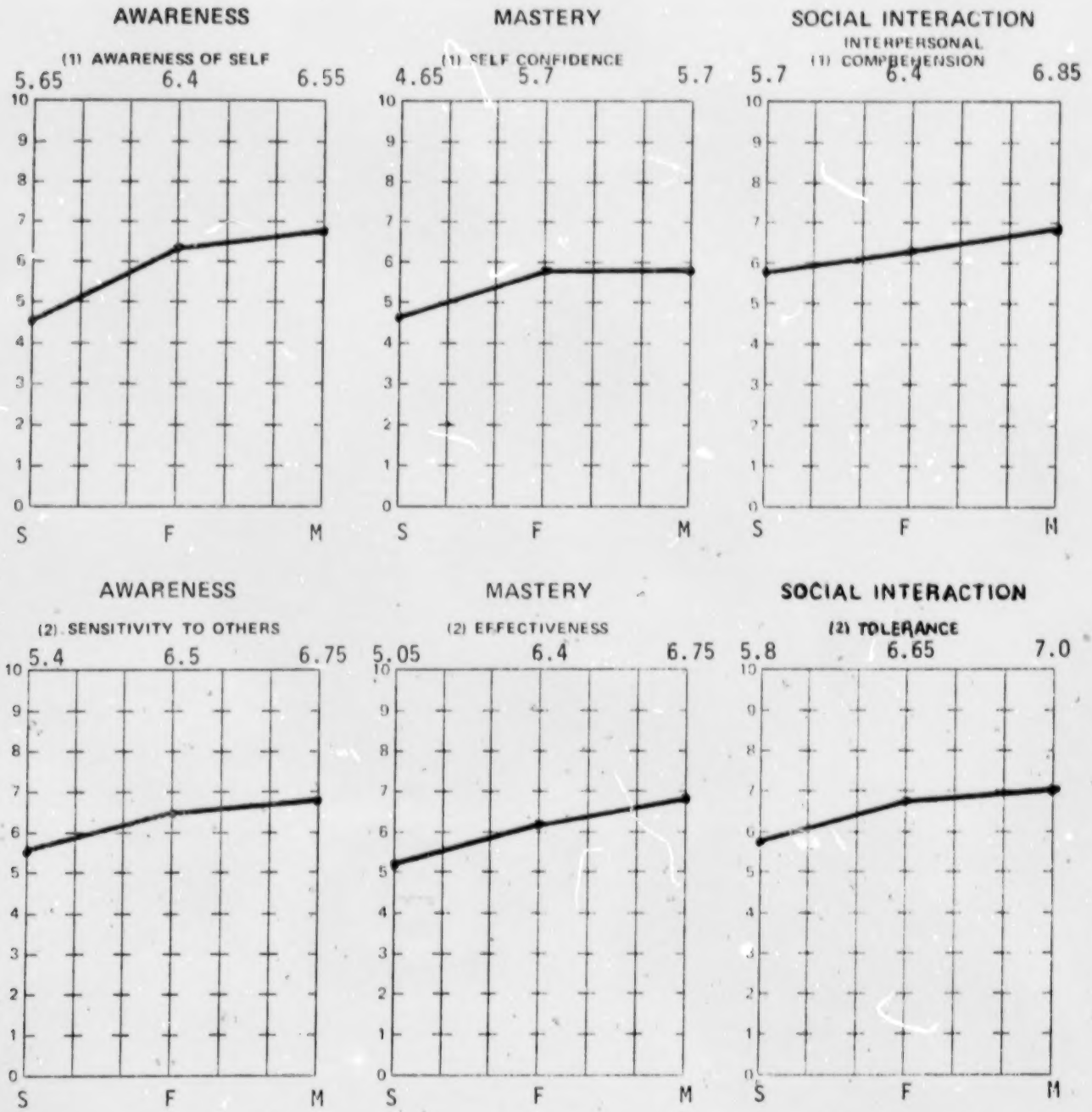

Figure 6, Developmental Profile for the Fifth Grade

Developmental Profile

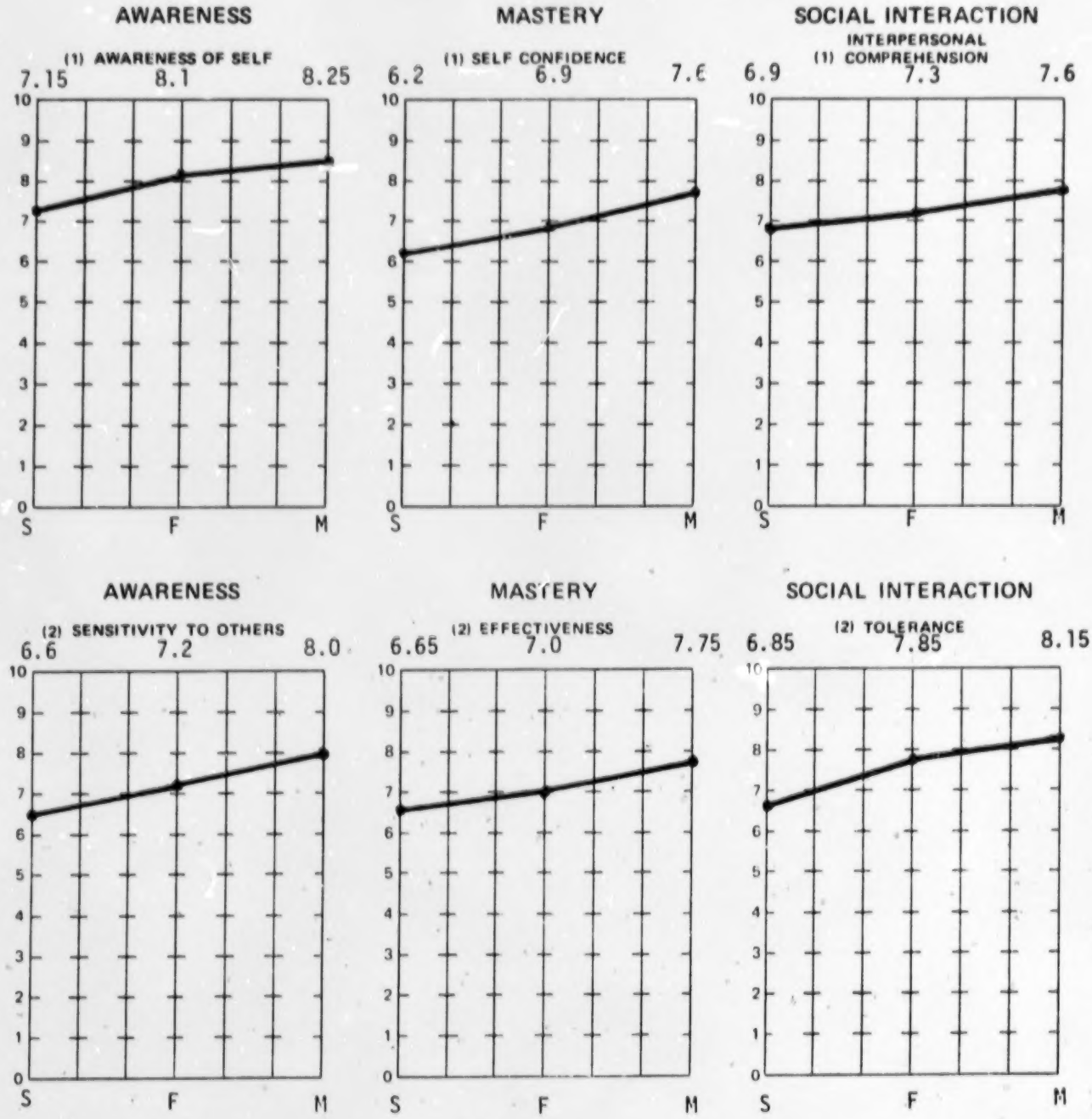

Figure 7, Developmental Profile for the Sixth Grade

SECTION IV

SUMMARY, FINDINGS, CONCLUSIONS AND RECOMMENDATIONS

SUMMARY

This project was initially started at La Casita Elementary School beginning at the kindergarten level during the 1972-1973 school year and was expanded by adding one grade level each year. Beginning with the 1978-1979 school year, the project was also expanded to include Our Lady of Guadalupe Elementary School. During the 1979-1980 school year, the project consisted of grades 3 through 6 involving approximately 140 students including both schools. For external program evaluation during 1979-1980, pretest and posttest data were available for approximately 120 students.

The major purpose of the external evaluation study during 1979-1980 was to measure the impact of the bilingual education project, in terms of student achievement on students in grades 3 through 6 in the two elementary schools. Student achievement was measured in the areas of: language arts, reading, mathematics, and self-concept and favorable emotional development.

The evaluation design used for evaluating the instructional objectives pertaining to language arts (1.1), reading (1.2), and mathematics (1.3) was the use of scores from the three sub-tests of the Comprehension Test of Basic Skills (CTBS) on a spring to spring pretest-posttest basis. The objective pertaining to self-concept and favorable emotional development (1.4) was evaluated with the use of the Developmental Profiles. In addition, a regression analysis was conducted so as to provide an estimate of what such students' performance in each of the three areas measured (objectives 1-1, 1-2 and 1-3) by grade level would have been in the absence of the program. As concerns this external evaluation study and report, evaluation data for the various grade levels in each of the two schools were combined; however, data by school and grade level were made available in a separate report.

FINDINGS

A summary of the findings of this study, by grade level, is presented in the following paragraphs:

Grade 3

Gains were made in the areas of language arts, reading, and mathematics; however, signigicant gains were made just in the areas of language arts ($p<.05$) and mathematics ($p<.01$) much growth was indicated in the area of self-concept and favorable emotional development.

The regression analysis indicated that students at this grade level performed better than predicted in the areas of language arts and mathematics; however, in the area of reading the students performed considerably less than predicted.

Grade 4

Gains were made in the areas of language arts, reading,and mathematics; however, significant gains were made just in the areas of language arts ($p<.05$) and mathematics ($p<.01$). Some growth was indicated in the area of self-concept and favorable emotional growth.

The regression analysis indicated that students at this grade level performed better than predicted in the areas of language arts and mathematics; however, students performed less than predicted in the area of reading.

Grade 5

Gains were made in the areas of language arts, reading,and mathematics; however, significant gain was made just in the area of mathematics ($p<.05$). Some growth was indicated in the area of self-concept and favorable emotional development.

The regression analysis indicated that students at this grade level performed better than predicted in the areas of language arts and mathematics; however, students performed less than predicted in the area of reading.

Grade 6

Gains were made in the areas of language arts, reading,and mathematics; however, none of these gains were significant. Some growth was indicated in the area of self-concept and favorable emotional development.

The regression analysis indicated that students at this grade level performed better than predicted in the areas of language arts and mathematics; however, students performed less than predicted in the area of reading.

CONCLUSIONS

Based upon the findings of this study, the major conclusions as related to the instructional objectives were:

Objective 1.1 - Language Arts

In the area of language arts, significant gain scores were made by students in grade 3 ($MG=13.84, p<.05$) and grade 4 ($MG=11.18, p<.05$). Gains were made by students in grade 5 ($MG=3.36$) and grade 6 ($MG=8.76$); however, the gains were not significant. At each of the four grade levels, students did perform better in this area than was predicted.

It was concluded that the objective pertaining to language arts was achieved by students in grades 3 and 4, but not for students in grades 5 and 6.

Objective 1.2 - Reading

In the area of reading, gain scores were made by students in grade 3 ($MG=1.17$), grade 4 ($MG=4.19$), grade 5 ($MG=6.1$) and grade 6 ($MG=4.22$);

however, none of the gains were found to be significant. At each of the four grade levels, the students did not perform as well as predicted.

It was concluded that the objective pertaining to reading was not achieved by students at any grade level.

Objective 1.3 - Mathematics

In the area of mathematics, significant gain scores were made in grade 3 (MG=25.9, $p<.01$), grade 4 (MG=27.53, $p<.01$, grade 5 (MG=5.52, $p<.01$; however, the gain score for grade 6 (MG=4.46) was not significant. At each of the four grade levels, students did perform better in this area than was predicted.

It was concluded that the objective pertaining to mathematics was achieved at grade levels 3,4 and 5, but not at grade level 6.

Objective 1.4 - Self-Concept and Favorable Emotional Development

In this area, students in grade 3 indicated some growth; however, very little growth was found in grade levels 4,5 and 6.

It was concluded that the objective pertaining to self-concept and favorable emotional development was not achieved.

RECOMMENDATIONS

Based upon the findings, conclusions and other data obtained during this study, the following suggestions or recommendations are made:

1. That students at all grade levels in the bilingual education program be provided additional remedial assistance in the area of reading.

2. That the curriculum be modified so as to include a program designed to assist the students at all grade levels to acquire a more positive self-concept.

3. That the external evaluation study be expanded to include process as well as progress.

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